2012 Highlights of Major Accomplishments

Office of the Vice Chancellor for Research
July 1, 2011 - June 30, 2012

The Office of the Vice Chancellor for Research (OVCR) is dedicated to the advancement of the research enterprise at IUPUI. The primary units associated with OVCR consist of the Office of Research Development, the Center for Research and Learning, and the Solution Center. These units support the campus in the achievement of its research mission.   Central to this mission are the development and expansion of innovative research programs that align well with institutional mission and strategic plan, address important national and global needs, and through technology transfer and commercialization noticeably support the economic development of Indiana and the nation.

Research Development

Major Initiatives

- Oversaw all the centers funded under the IUPUI Signature Centers Initiative (SCI), including the second year review of the seven Round 3 centers and the first year review of the three Round 4 centers.   Moreover, oversaw the review of applications received for new centers to be funded under the SCI program, resulting in the selection of three new Round 5 centers. The Signature Centers Initiative has been resulting in the in the development of nationally and internationally known research centers of excellence at IUPUI.

- Oversaw the development and expansion of the campus-wide arts and humanities initiative, which has resulted in the creation of the IUPUI Arts and Humanities Institute, dedicated to, 1) support individual faculty, groups, and interdisciplinary teams in their pursuit of research and creative activity in arts and humanities, including interdisciplinary initiatives; 2) serve as a portal for the promotion of innovative inquiry-based arts and humanities educational experiences in academic curricula across campus; and 3) act as a liaison between IUPUI and the community in the development of arts and humanities endeavors. A key distinguishing feature of the institute is that it appears to be the only university-based institute of its kind nationwide bringing together arts and humanities from as many and as diverse schools as done at IUPUI, where the partnering schools not only consist of schools of arts and liberal arts (as for the case of few other arts and humanities institutes nationwide), but additionally include schools of medicine, informatics, and engineering and technology, resulting in a highly interdisciplinary institute poised to push the frontiers of arts and humanities.

- Oversaw the development of the campus-wide STEM initiative, which has resulted in the creation of the IUPUI STEM Education Research Institute, dedicated to oversee, promote and coordinate STEM education research initiatives across the IUPUI campus and in collaboration with external partners. The Institute, as a campus-wide entity dedicated to STEM research education, is among the first entities of its kind nation-wide. Building on the current STEM strengths at IUPUI, the Institute is poised to realizing nationally acclaimed STEM programs.

- Oversaw the development of the IUPUI Imaging Research Initiative, which is dedicated to the realization of the following key objectives: 1) to encourage and coordinate collaboration among IUPUI researchers from different disciplines, 2) to provide advice and guidance in the realization of highly competitive large grant proposals that will support and grow the IUPUI imaging efforts into major nationally and internationally recognized programs, and 3) to implement a strategic plan that will enable IUPUI to become nationally and internationally known as *the* place for imaging research and its applications. The IUPUI Imaging Research Initiative's current priority areas consist of, 1) Neuroscience Imaging, 2) Cancer, 3) cardiology, and 4) Molecular Imaging & Probe Development.

- Developed and launched the Enhanced Mentoring Program with Opportunities for Ways to Excel in Research (EMPOWER), intended to provide research support to IUPUI faculty who are historically underrepresented and/or excluded populations in their discipline or area of scholarship and

historically denied admission to higher education or that discipline, 1) to become successful in sponsored research and scholarly activity, and 2) to achieve significant professional growth and advancement. The program sustains mentorship opportunities, supporting achievement of excellence in research and scholarly activity, and optimal attainment of academic career goals.

- Developed and launched the Funding Opportunities for Research Commercialization and Economic Success (FORCES) program, designed to support IUPUI researchers in the successful transformation of their research findings into commercially viable outcomes. The key goals of FORCES are to support: 1) realization of short-term projects that will enhance commercial value of IUPUI intellectual property assets, by facilitating commercialization of inventions, technologies, or other intellectual property derived from existing research projects, and 2) development of research initiatives that show great promise for commercialization of the research outcomes.

- Promoted proposal submissions from IUPUI to increase the research funding through the National Science Foundation, the National Institutes of Health, and other funding agencies. These efforts included making available internal workshops and training programs, as well as having program directors from NSF and other agencies visiting IUPUI to interact with faculty members. Moreover, held meetings with campus department heads and center directors about OVCR services, as well as funding opportunities available through external agencies.

- Worked closely with the Office of the Vice President for Research in support of a multitude of collaborative research initiatives in areas of strength at IU, including epigenetics, pain, network science, and religion and ethics in society.

- Developed and offered new workshops and training programs. These included the "Nine Golden Rules to Succeed in Research," "Proposal Development Basics: Focus on the Sciences," "Proposal Development Basics: Focus on the Arts, Humanities, and Social Sciences," "Chairs and Department Heads Workshop," and "Proposal Development: Secrets to Preparing Successful Complex Grant Proposals."

- Provided proposal development services and individual consultations to over 30 interdisciplinary teams, and numerous individuals. This support resulted in the submission of 62 proposals totaling $67,660,600. Of those proposals submitted, 10 requests were greater than $1M and an additional 5 were greater than $5M.

- Conducted three Writing Circles. Specifically, the Proposal Writing Circle focused on faculty preparing proposals early in their careers. The NSF CAREER Writing Circle assisted faculty by providing numerous reference materials, skill building exercises, and one-to-one editing. The NSF REU Writing Circle prepared faculty to submit competitive REU proposals.

Programs and Services
- Organized and hosted the 2012 IUPUI Research Day. This is the largest event of its kind held at IUPUI. It provides an opportunity for the entire campus and their academic, industrial, governmental partners, and the broader community, to come together and find out more about the research enterprise at IUPUI, explore new collaborations, and lay the foundation for new partnerships. The Research Day also includes programs for K-12 students, teachers, and administrators from Indianapolis and the region. Dr. Joan Ferrini-Mundy, Assistant Director, National Science Foundation, gave the keynote address to an audience of over 400 campus and outside participants.

- Delivered approximately 60 OVCR sponsored/co-sponsored workshops and presentations to over 530 participants. The topics covered have ranged from how to write top quality grant proposals, to how to find funding sources and develop successful research programs.

- Delivered two new seminars/workshops. Specifically, with the IUPUI University Library, 2 workshops were offered, titled "Meeting the NSF Data Management Plan Requirement: What you need to

know." In addition, a school-based Responsible Conduct of Research (RCR) workshop was offered, titled "Recruiting Subjects under HIPAA: Challenges and Approaches." This session was hosted and co-sponsored by the School of Nursing. Each of these programs was well received.

- Delivered 7 proposal development and/or funding search workshops in over 7 schools/departments on campus.

- Administered 8 OVCR internal grant programs, providing seed funding in support of research projects which have good prospects to grow and succeed, including through external funding support.   A total of 140 proposals were submitted and 88 received funding. The total funding was $1,702,848.

- Conducted 21 consultations with faculty, department chairs and school deans on funding opportunities for their individual research projects and department funding.

Center for Research and Learning (CRL)

The mission of the Center for Research and Learning is to promote, create, and coordinate, implementation of innovative inquiry-based learning programs that integrate research and education to provide students effective pathways for lifelong active learning and professional development. CRL serves students through two primary program areas, identified as *Undergraduate Research Programs* and *Diversity Research Programs*. These programs are delivered throughout the academic year as well as through intensive research experiences during the summer. The CRL has served more than 500 students either through direct sponsorship of research or by providing structured opportunities to report their research to a broader audience. Dr. Richard E Ward, Chancellors Professor of Anthropology assumed the position as Executive Director of the Center for Research and Learning, in August of 2011. The following are highlights of CRL accomplishments:

Undergraduate Research Programs:
- The CRL piloted a new program, *Innovation-to-Enterprise Central (ITEC)* in the fall and spring academic semesters. This effort consisted of three multidisciplinary teams of five students, drawn from the Schools of Business, Engineering, Science, Informatics, and Liberal Arts. Teams were assigned to assist three IUPUI faculty members in evaluating their innovations for eventual commercial development. Teams worked with OVCR, CRL, and Solution Center staff to evaluate the products' market potential and to outline the next steps necessary for further market development. Four teams are planned for the 2012-2013 academic year.
- In conjunction with Office of the Vice Chancellor for Research, the CRL co-sponsored an inaugural "Ideas Solving Social and Economic Challenges" (ISEC) competition for IUPUI students. Eleven teams of students presented innovative ideas to solve problems through new approaches, products, services, or ventures and $5,000 in scholarships were awarded to winners.
- IUPUI Nanotechnology Discovery Academy Summer Camp served 41 high school students coming from 25 different schools around the Indianapolis region. There were two students from outside Indiana and two international students who joined the camp this summer. This Program served 15 high school teachers from 12 different schools around the Indianapolis region, including from Indianapolis Public School system.
- Multidisciplinary Undergraduate Research Institute (MURI) grants and Undergraduate Research Opportunities (UROP) grants were awarded to over 100 IUPUI undergraduates, and these individuals were in-turn supported by more than 50 IUPUI faculty mentors.
- The first "international" UROP scholars were recruited for the summer of 2012 form Gaza University. These two students are spending 9 weeks at IUPUI working with the support of faculty and staff from the CRL, Office of International Affairs, Liberal Arts, and other areas across campus. Their research on the impact of Social Media on political and social change will be presented at the CRL summer poster session on July 26, 2012.

Diversity Research Programs:

- CRL submitted a $1.3 million grant proposal to the U.S. Department of Education for renewal of the IUPUI Ronald E. McNair Post Baccalaureate Achievement program, to fund another five years of programming. This nationally recognized program is directed toward increasing the numbers of underrepresented, first generation, and low income students into Ph.D. programs and subsequently into the professoriate. Currently in its seventh year, the IUPUI McNair program has achieved over a 90% graduation rate, with the vast majority of the students enrolling in post graduate education. The program is now averaging two Ph.D. degrees a year among our alumni. Moreover, recruited in partnership with the Office of Diversity, Equity, & Inclusion six undergraduate students from Historically Black Colleges and Universities (Tuskegee University, Hampton University, Claflin University, Philander Smith College) to participate in the IUPUI McNair program.
- CRL continued to work with Dr. Kim Nguyen, Director of the Louis Stokes Alliance for Minority Participation to increase participation and success of students from underrepresented populations in STEM disciplines. Highlights of this collaboration for the reporting period include: 1) eight LSAMP scholars graduated with degrees in STEM fields. Three LSAMP graduates have been accepted into PhD programs, and one to Indiana University School of Dentistry. 2) LSAMP Phase II award from the National Science Foundation (NSF) was approved for one year no cost extension and the new LSAMP Indiana Senior Level grant proposal is being considered for funding. Therefore, LSAMP program will continue for the next five years. 3) The Louis Stokes Midwest Center of Excellence grant proposal in partnership with Chicago State University is being recommended by the program director at NSF for a five-year award funding 2012-2017. This $2.5 million grant is to support a pilot center administered jointly by IUPUI and CSU to broaden the participation of underrepresented minority students in STEM degree programs at 29 non-LSAMP institutions in the Midwest.
- In partnership with the IU Simon Cancer Center Summer Research Program: 1) Recruited, in a competitive selection process with 240 applicants, 17 high school and college scholars, who are underrepresented in cancer research, to conduct clinical and population-based biomedical cancer research with mentors. 2) Assisted in the implementation of the new *Future Scientists High School Summer Science Program* (American Cancer Society and the IU Simon Cancer Center) by recruiting Indianapolis Public Schools high school students to participate in research opportunities under the mentorship of an IU Simon Cancer Center researcher.
- Diversity Scholars Research Program (DSRP) is a highly competitive, performance-based, annually-renewable fellowship program founded in 1996-97 focusing on active learning through hands-on research and scholarship. DSRP is a partnership between CRL and participating schools and departments at IUPUI. The award is made to academically talented undergraduate students from a variety of majors who will contribute further to the rich diversity of the IUPUI campus. During the reporting period: 1) Increased number of DSRP Scholars by 20%. 2) Facilitated agreement with School of Education to serve as newest academic unit partner school for AY 2012-13. 3) 7 DSRP Scholars were among the 2012 IUPUI Top 100 students. 4) 4 DSRP Scholars were selected to present at the 2012 National Conference on Undergraduate Research (NCUR). 5) DSRP Scholars finished AY 2011-12 with an average GPA of 3.46/4.00.
- Recruited ten students from the 2011 IUPUI-Ivy Tech Community College Bridges to the Baccalaureate Program cohort (12 full-time students), who successfully transferred into IUPUI as full-time students and continue to participate in undergraduate research.

Honors for individual students affiliated with CRL programs including:

- Daniel Popoola, a senior majoring in Biology, and a CTSI and McNair alum, presented his research at the National Conference for Undergraduate Research in March 2012. He was the only student selected from Indiana.
- The first cohort of Center for Research and Learning Student Ambassadors was appointed in the spring of 2012. These ambassadors will represent the CRL at campus events, serve as role models and mentors for other IUPUI research students, and advocate for undergraduate research as opportunities allow.
- Thirty one students affiliated with multiple CRL programs recognized as IUPUI "Top 100" students, including ten students in the top twenty and for the second year in a row, the Top Male student.

- For the second year in a row a student affiliated with several CRL programs (Carmanny Gonzales) was chosen to deliver IUPUI commencement addresses;
- Twenty-six students form IUPUI presented posters and oral papers at the Indiana University Undergraduate research Conference in Kokomo in November of 2011.
- More than 100 undergraduate students from IUPUI presented posters and oral papers at the IUPUI "Research Day" event on April 13, 2012; Overall there were more than 170 undergraduate and graduate presentations, the largest number ever.
- Multiple students presented at national professional conferences, including poster awards for students in Bridges/Diversity Scholars Research Program and the Louis Stokes Alliances for Minority Participation.

Solution Center

The IUPUI Solution Center reflects IUPUI's commitment to its community. Created to serve Indiana and IUPUI as a "front door," the Solution Center connects the university's intellectual capital to the interests of the external community and raises the campus's external profile through internships, service-learning and classroom projects, faculty research, and business development projects. In FY 2011-2012, the Solution Center:

- Completed the third year of the five-year $1,800.000 Lilly Endowment grant (2009-2013).
- Responded to 8,774 contacts and referral requests, and facilitated a total of 479 formal engagements between IUPUI students and faculty with community partners, resulting in: 1) Total of 263 students, 97 faculty, and 119 community organizations and businesses involved in internships, class projects, and community-based research efforts. 2) Total of $568,551 in funding for IUPUI engaged activities in the community. Venture Fund awards of $244,851 to 51 community partners secured $323,700 in match funding in support of engagements. 3) Significant online activity in www.IUPUItalent.net, IUPUI's campus-wide job posting system, including the following:

Internships	848 postings
Full-time Degreed	1,277 postings
Student Job on Campus	224 postings
Temporary/Staffing Agency	105 postings
Part-time/Full-time/Non-Degreed	1,139 postings
Work Study	226 postings
Independent Sales/Contract	102 postings
Full-Time Experienced	864 postings
Research Assistants	64 postings
Community Service/Volunteer	63 postings for a total of 146 openings

- Joined the Office of the Vice President for Regional Affairs, Planning, and Policy to host the 2011 statewide conference on University Partnerships and Reciprocity Conference. Planned the Internships Panel, and invited the luncheon Keynote Speaker, Elizabeth Tryon, a scholar in community-based engagement research at the University of Wisconsin-Madison.
- Secured a $75,000 grant from the JPMorgan Chase Foundation, for IUPUI-Chase Near Eastside Legacy Initiative (NELI) to promote health, wellness, and education programming in the Near Eastside community. Over 100 students and faculty are expected to work with community members to develop and launch targeted communication and public health awareness strategies that address quality of life goals for the Near Eastside. The Solution Center matched the Chase grant with $80,430 from the Community Venture Fund, and will serve as project manager for the two-year initiative. To date, NELI has already engaged 50 students in the Near Eastside: 1) 48 students and 3 faculty members from Herron, Public Health, and Liberal Arts conducted neighborhood needs assessments and are developing Phase I communication strategies. 2) Assisted the Chase Legacy Center/Boner Center to engage 1 intern to increase awareness of Legacy Center programming. 3)

Assisted the School of Physical Education and Tourism Management (PETM) to engage 1 graduate student intern to oversee Legacy Center-Fitness Center programming.

- Secured two awards for evaluation: 1) Received $10,450 in support from the IU President's Office to conduct an assessment of Solution Center work in the community; surveyed 146 community partners, 69 faculty, and 200 students. Community partners reported direct benefits from engagement with IUPUI (93.4%), and were impressed by students' ability to work independently (86%) and communicate well (85%). Students found the work with community partners to be challenging and stimulating (90%) and 81% felt better prepared to enter the work world after their internships. Faculty indicated their students benefitted from their community-based work (96%), and 92.3% said that engagement benefitted them directly. 2) Received a second grant for $8,000 from the IU President's Office to conduct additional evaluation studies in 2012-13, and has been asked to share the evaluation model and practices with the other campuses involved in the Lilly Grant.
- In partnership with the Center for Research and Learning and with support from the Office of the Vice Chancellor for Research, the Solution Center piloted a campus initiative to expose students to research innovations and business start-up skills. Working with faculty mentors, multidisciplinary student teams learn about research commercialization and develop entrepreneurial and business skills. The pilot led to the formal launch of *Innovation-to-Enterprise Central (ITEC)* in the fall of 2011. The Solution Center provides oversight and mentored one team project.
- As OVCR liaison to Translating Research Into Practice (TRIP), partnered to plan events, including: a presentation at 2011 CUMU, the 2011 TRIP Showcase, the 2011 Community Showcase at IUPUI's Research Day, and the 2012 Inaugural TRIP Distinguished Scholar Presentation.
- Secured nearly $80,000 in gifts, sponsorships, and fees to hold the fourth annual Indiana Nonprofit Capacity Building Conference in October 2011 and the 2011 Indiana Achievement Awards (IAA). Over 300 nonprofit leaders attended the conference and the IAA awards ceremony during which the Solution Center recognized six Indiana nonprofit leaders for exemplary nonprofit practices.
- Piloted workshops on "Increasing and Expanding Your Research Agenda through Community Engagement," in the School of Liberal Arts. Will seek to host workshops in all schools in 2012-13.
- Served on campus and community committees and teams, including: the Plater Institute, IUPUI Talent Alliance, Program Review and Assessment (PRAC), United Way of Boone County, United Way of Central Indiana, TCEM Industry Advisory Council, Common Theme Committee, Westminster Neighborhood Association, TCM Advisory Board, IUPUI Super Bowl Policy Committee, IUPUI Career Services Council, IUPUI United Way Campaign Executive Committee, Public Allies Board, Criterion 5 Reaccreditation Committee, Indiana Health Industry Forum Advisors, Lilly Collaborations Group, and Techpoint Foundation for Youth Board.
- Publications & Presentations:
  - Littlepage, Laura, Beth Gazley, and Teresa Bennett. (2012). Service-learning from the "supply side": Community capacity to engage students. *Nonprofit Management and Leadership. Vol 22(3).*
  - Gazley, Beth, Laura Littlepage, and Teresa Bennett. (2011). Nonprofit Perspectives on Community-Based Student Learning and Volunteering. *Nonprofit and Voluntary Sector Quarterly.*
  - Bennett, Teresa, Laura Littlepage and Beth Gazley. "Universities that Serve: University-Community Partnerships from the Community Perspective." Working paper in draft for higher education journal.
  - Numerous Conference presentations on engagement including: 3rd Annual Engage 2011 Conference, Bristol UK; 2011 Council for Urban and Metropolitan Universities, 2011 National Outreach Scholarship Conference; 2012 Assessment Institute; 2011 IUPUI Civic Engagement Showcase. Two presentations accepted for the 2012 Coalition of Urban and Metropolitan Universities (CUMU).